REMARKS

At the present time, the status of the present application is that, following the grant of a Petition to Withdraw from Issue on April 8, 1996 so that a correction could be made in the drawings and specification by an Amendment filed on April 5, 1996, an original Notice of Allowance was withdrawn. On August 16, 1996, the Examiner issue a Notice of Allowability but no new Notice of Allowance. On December 23, 1996, the Petition requesting entry of the Amendment filed April 5, 1996 was granted as a Petition requesting a filing date, and the application was returned to the Examining Group for entry of the Amendment. No new Notice of Allowance has yet been issued.

Since the grant of the Petition on December 23, 1997, the Applicants have become aware of the issuance of U.S. Patent No. 5,684,827 (the '827 Patent) on November 4, 1997. Applicants believe that the '827 Patent discloses and claims subject matter that is interfering with subject matter disclosed in the present application. Further, Applicant believes that, in view of the available prior art, Applicant is entitled to additional claims to further define the scope of his disclosed invention. Accordingly, the present amendment under 37 CFR 1.312 is being filed.

Further, interference is requested with the '827 Patent, which issued to Nielsen on November 4, 1997, on an application filed 7 June 1995. The '827 Patent is owned by Zenith Electronics Corporation. Pursuant to the requirements of 37 CFR 1.607(a), the following information is provided, corresponding to the numbered subparagraphs of that section:

(1) Interference is requested with U.S. Patent No. 5,684,827;

(2) The proposed count is as recited in new claim 23:

A method of controlling the operating mode of an equalizer comprising steps of:

identifying a direct current (DC) component of a received signal; and

controlling the operating mode of the equalizer in response to the identification of the direct current (DC) component of said received signal.

(3) Claims 1, 2, 3, 4, 14, 15 and 16 of U.S. patent No. 5,684,827 correspond to the count.

(4) New claims 23, 24, 25, 31, 32 and 33 correspond to the count. Also, new claims 26, 27, 28, 29, 34, 35, and 36, which are copies of claims 1, 2, 3, 4, 14, 15 and 16 , respectively, of U.S. patent No. 5,684,827, correspond to the count.

(5) The application of any newly added claim identified above as corresponding to the count is applied to the disclosure of the present application as follows:

23. A method of controlling the operating mode of an equalizer comprising steps of:	Figs. 1, 2, 11 and 12; see equalizer 36 in Fig. 2 and specification at page 14, lines 10-23.
identifying a direct current (DC) component of a received signal; and	Fig. 1, pilot detector 34; see Figs. 11 and 12 for details; and page 16, lines 4-19 and page 38, line 10-page 39, line 9 of the specification.
controlling the operating mode of the equalizer in response to the identification of the direct current (DC) component of said received signal.	Fig. 2 shows a DC level from detector 34 controlling the operating mode of equalizer 36; see page 6, lines 19-28, page 17, lines 6-9 and sentence bridging pages 17 and 18 of the spec.
24. The method of claim 23 wherein the received signal at times comprises multi-level symbols representing data and a field synchronizing signal, said symbols being characterized by being accompanied by a substantially constant direct current (DC) offset component,	The VSB television signal for HDTV inherently contains multi-level symbols and field sync signals, the symbols accompanied by a DC offset; page 13, lines 13-25; page 17, line 12-page 18, line 3.
and at other times comprises multi-level symbols representing data and being characterized by not being accompanied by said substantially constant direct current (DC) offset component,	The QAM television signal for HDTV inherently contains multi-level symbols and field sync signals, but the symbols do not have a DC offset; page 13, lines 13-25; page 17, line 12-page 18, line 3 of the specification.
and wherein the step of controlling the operating mode of the equalizer in response to	

the identification of the direct current (DC) offset component of said received signal comprises substeps of:	
determining whether or not said received signal is currently accompanied by said substantially constant direct current (DC) offset component;	Figs. 2, 11 and 12; detector 34 makes such determination; specification at page 38, line 10 to page 41, line 14.
calculating desired spectral response for said equalizer using at least a portion of said field synchronizing signal as a training signal, in response to it being determined that the direct current (DC) level said received signal is currently accompanied by said substantially constant direct current (DC) offset component; and	Specification at page 17, lines 6-9.
establishing desired spectral response for said equalizer other than from calculations using at least a portion of said field synchronizing signal as a training signal, in response to it being determined that said received signal is currently unaccompanied by said substantially constant direct current (DC) offset component.	Operation during QAM reception as disclosed at pages 17 and 18.
25. The method of claim 24 wherein said step of establishing desired spectral response for said equalizer other than from calculations using at least a portion of said field synchronizing signal as a training signal consists of establishing a flat amplitude-versus-frequency characteristic in response to it being determined that said received signal is currently unaccompanied by said substantially constant direct current (DC) offset component.	Operation as disclosed at pages 17 and 18.
26. A method of controlling the operating mode of an equalizer comprising:	Figs. 1, 2, 11 and 12; see equalizer 36 in Fig. 2 and specification at page 14, lines 10-23.
determining the variation, during an interval of time, of the direct current (DC) level of a received signal; and	Fig. 1, pilot detector 34; see Figs. 11 and 12 for details, and page 16, lines 4-19; the interval of time can start at the time a TV receiver is turned on, at the time of channel switching, or based on the time of kernel width of the digital lowpass filter in the VSB pilot presence detector 34.

controlling the operating mode of the equalizer in response to the determined variation.	Fig. 2 shows a DC level from detector 34 controlling the operating mode of equalizer 36; see page 6, lines 19-28, page 17, lines 6-9 and sentence bridging pages 17 and 18 of the spec.
27. The method of claim 26 wherein the received signal comprises multi-level symbols representing data and a field synchronizing signal, said symbols being characterized by a DC offset and wherein the determining step further comprises;	The VSB television signal for HDTV inherently contains multi-level symbols and field sync signals, the symbols being accompanied by a DC offset; page 13, lines 13-25; page 17, line 12-page 18, line 3 of the specification.
processing the field synchronizing signal to determine the variation of the DC offset in the received signal.	Figs. 2, 11 and 12; the VSB pilot presence detector 34 processes all portions of a signal, including data and field sync signal.
28. The method of claim 27 wherein the field synchronizing signal comprises a pseudo random number symbol sequence and wherein the processing comprises sampling a part of the pseudo random number symbol sequence.	Figs. 2, 11 and 12; the VSB pilot presence detector 34 processes all portions of a signal, including the PN symbol sequence in the field sync signal.
29. The method of claim 28 wherein the sampled symbol sequence is surrounded by a plurality of non-variant symbols.	This is inherent in the VSB HDTV signal.
30. A digital television receiver comprising:	Figs. 1, 2, 11 and 12; see equalizer 36 in Fig. 2 and specification at page 14, lines 10-23.
a detector for determining the direct current (DC) level of a received digital television signal; and	Detector 34 in Fig. 1.
an adaptive equalizer having plural operating modes for responding to said received digital television signal, the operating mode of said adaptive equalizer being selected responsive to the direct current (DC) level of said received digital television signal.	Equalizer 36 in Fig. 2 operates in 2 modes based on output of detector 34.
31. The receiver of claim 30 further characterized by being of a type in which, responsive to the amplitude of a direct	Equalizer 36 in Fig. 2; specification at page 16, line 4- page 18, line 1.

component of said received signal being more than a prescribed threshold value, said adaptive equalizer is conditioned to have its amplitude-versus-frequency characteristic determined responsive to calculations using at least a portion of said field synchronizing signal as a training signal.	
32. The receiver of claim 31 further characterized by being of a type in which, responsive to the amplitude of said direct component of said received signal being less than a prescribed threshold level, desired spectral response for said adaptive equalizer is established other than from calculations using a training signal.	Equalizer 36 in Fig. 2; specification at page 16, line 4- page 18, line 1.
33. The receiver of claim 31 further characterized by being of a type in which, responsive to the amplitude of said direct component of said received signal being less than a prescribed threshold level, said adaptive equalizer is conditioned to have a flat amplitude-versus-frequency characteristic.	Equalizer 36 in Fig. 2; specification at page 16, line 4- page 18, line 1.
34. A receiver including an adaptive equalizer having different operating modes comprising:	Figs. 1, 2, 11 and 12; see equalizer 36 in Fig. 2 and specification at page 14, lines 10-23.
means for determining the variation of the direct current (DC) level of a received signal during an interval of time; and	Fig. 1, pilot detector 34; see Figs. 11 and 12 for details, and page 16, lines 4-19; the interval of time can start at the time a TV receiver is turned on, at the time of channel switching, or based on the time of kernel width of the digital lowpass filter in the VSB pilot presence detector 34..
means for controlling the operating mode of said adaptive equalizer as a function of the determined DC variation.	Fig. 2 shows a DC level from detector 34 controlling the operating mode of equalizer 36; see page 6, lines 19-28, page 17, lines 6-9 and sentence bridging pages 17 and 18.
35. The receiver of claim 34 wherein said received signal includes a field sync signal and wherein said DC variation determining means operates on said field sync signal.	Specification at page 16, line 4- page 18, line 1.

36. The receiver of claim 35 wherein said field sync signal comprises a pseudo random number sequence of symbols, and further including:	Specification at page 16, line 4- page 18, line 1.
means for sampling a portion of said sequence of symbols for processing by said DC variation means.	Specification at page 16, line 4- page 18, line 1.
37. A receiver for signals that comprise multi-level symbols representing data and a field synchronizing signal, said symbols being characterized by being accompanied by a substantially constant DC component, and for signals that comprise multi-level symbols representing data and being characterized by not being accompanied by said substantially constant DC component, said receiver comprising:	Figs. 1, 2, 11 and 12; see equalizer 36 in Fig. 2 and specification at page 14, lines 10-23; VSB signal has a DC component while QAM signals do not have such component.
a detector for determining the DC component of a received signal;	Fig. 1, pilot detector 34; see Figs. 11 and 12 for details, and page 16, lines 4-19.
an adaptive equalizer having different operating modes for responding to said multi-level symbols, said adaptive equalizer arranged for having its current operating mode selected responsive to the level of the direct component of said received signal as detected by said detector.	Equalizer 36 in Fig. 2 and described in the specification at page 14, lines 10-23.
38. The receiver of claim 37 further characterized by being of a type in which, responsive to the direct component of said received signal being at least a prescribed threshold level, said adaptive equalizer is conditioned to have its amplitude-versus-frequency characteristic determined responsive to calculations using at least a portion of said field synchronizing signal as a training signal.	Equalizer 36 in Fig. 2; specification at page 16, line 4- page 18, line 1.
39. The receiver of claim 38 further characterized by being of a type in which,	Equalizer 36 in Fig. 2; specification at page 16, line 4- page 18, line 1.

responsive to the direct component of said received signal being below a prescribed threshold level, desired spectral response for said adaptive equalizer is established other than from calculations using a training signal.	
40. The receiver of claim 38 further characterized by being of a type in which, responsive to the direct component of said received signal being below a prescribed threshold level, said adaptive equalizer is conditioned to have a flat amplitude-versus-frequency characteristic.	Equalizer 36 in Fig. 2; specification at page 16, line 4- page 18, line 1.

On the basis of the foregoing information, Applicant respectfully submits that the requirements of Rule 607(a) have been satisfied and that an interference should be declared as between the present application and U.S. Patent No. 5,684,827. Further, Applicant respectfully submits that on the basis of its filing date of June 28, 1994, which is more than one year prior to the date of filing of the application that matured into the '827 Patent, Applicant is entitled to be senior party in any declared interference. Finally, applicant submits that the newly added claims are patentable over the prior art cited in the present application and the prior art cited in the '827 Patent.

Respectfully submitted,
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